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**IN THE UNITED STATES PATENT & TRADEMARK OFFICE**

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TITLE: METHOD OF RECOVERING A BASE PAPER FOR )  
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GYPSUM BOARD AND APPARATUS OF )  
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RECOVERING A BASE PAPER FOR GYPSUM )  
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BOARD )  
 )  
COMPLETION OF PCT/JP2004/018148 filed December 6, 2004 )

**ENGLISH TRANSLATION OF PCT ARTICLE 34 AMENDMENTS**

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material of gypsum board, and washing the separated paper piece with water using a rotary drum-type washing device so as to eliminate a gypsum component adhering to the paper piece, and further comprising a step of previously  
5 dispersing or mixing the separated paper piece into a portion of washing water before the separated paper piece is introduced to the rotary drum-type washing device.

The apparatus of recovering a base paper for gypsum board according to the present invention comprises  
10 a device configured to break a waste material of gypsum board, a device configured to separate a burnt gypsum component and a paper piece from the broken waste material of gypsum board, a rotary drum-type washing device configured to wash the separated paper piece with water so  
15 as to eliminate a burnt gypsum component adhering to the paper piece, and a device configured to dewater the water-washed paper piece, and further has a device configured to disperse or mix the separated paper piece into water before washing the separated paper piece with water.

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#### ADVANTAGEOUS EFFECT OF THE INVENTION

According to the present invention, a method of recovering a base paper for gypsum board and an apparatus of recovering a base paper for gypsum board can be  
25 provided which are capable of recovering a paper piece of the base paper for gypsum board from a waste material of gypsum board continuously and efficiently.

#### BRIEF DESCRIPTION OF THE DRAWINGS

30 FIG. 1 is a flowchart showing steps of processing a waste material of gypsum board in an embodiment of the present invention.

FIG. 2 is a schematic diagram showing the

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configuration of an apparatus for processing a waste material of gypsum board in an embodiment of the present invention.

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## CLAIMS

1. (Amended) A method of recovering a base paper  
for gypsum board, which is configured to recover a base  
5 paper for gypsum board from a waste material of gypsum  
board comprising a gypsum core and the base paper for  
gypsum board adhering thereto, characterized by comprising  
steps of

breaking the waste material of gypsum board,  
10 separating a gypsum component and a paper piece  
of the base paper for gypsum board from the broken waste  
material of gypsum board, and

washing the separated paper piece with water  
using a rotary drum-type washing device so as to eliminate  
15 a gypsum component adhering to the paper piece, and  
further comprising a step of

previously dispersing or mixing the separated  
paper piece into a portion of washing water before the  
separated paper piece is introduced to the rotary drum-  
20 type washing device.

2. The method of recovering a base paper for  
gypsum board as claimed in claim 1 characterized by  
further comprising a step of burning the broken waste  
25 material of gypsum board or the separated paper piece,  
wherein the burning step is provided before the water  
washing step.

3. The method of recovering a base paper for  
30 gypsum board as claimed in claim 1 characterized by  
further comprising a step of dewatering the water-washed  
paper piece.

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4. (Canceled)

5. The method of recovering a base paper for gypsum board as claimed in claim 1, wherein a ratio of a weight of the separated paper piece to a weight of fresh water in the washing water is in a range of 1 : 5 - 1 : 100.

6. The method of recovering a base paper for gypsum board as claimed in claim 5, wherein, in the step of previously dispersing or mixing the separated paper piece into a portion of washing water, a ratio of a weight of the separated paper piece to a weight of the portion of washing water is in a range of 1 : 1 - 1: 15.

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7. The method of recovering a base paper for gypsum board as claimed in claim 3, characterized in that the step of dewatering the paper piece comprises squeezing and dewatering of the water-washed paper piece.

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8. (Amended) An apparatus of recovering a base paper for gypsum board, characterized by comprising a device configured to break a waste material of gypsum board,

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a device configured to separate a burnt gypsum component and a paper piece from the broken waste material of gypsum board,

a rotary drum-type washing device configured to wash the separated paper piece with water so as to eliminate a burnt gypsum component adhering to the paper piece, and

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a device configured to dewater the water-washed paper piece, and further having

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a device configured to disperse or mix the separated paper piece into water before washing the separated paper piece with water.

5           9. The apparatus of recovering a base paper for gypsum board as claimed in claim 8, characterized by further comprising a device configured to burn the broken waste material of gypsum board.

10           10. (Canceled)

11. The apparatus of recovering a base paper for gypsum board as claimed in claim 8, characterized in that the dewatering device is a device configured to squeeze  
15 and dewater the water-washed paper piece.